

## **WARNING**

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Family Name					
Given Name/s					
Student Number					
Teaching Period	Semester 1, 2018				

PSY447 – Research Methods and Practice	<b>DURATION</b>	
	Reading Time:	10 minutes
	Writing Time:	180 minutes
<b>INSTRUCTIONS TO CANDIDATES</b>		
<p><b>Section A: Multiple Choice Questions:</b> Answer ALL (60) questions (30 Marks) Suggested Time: 60 minutes.</p> <p><b>Section B: Short Answer Questions:</b> Answer 6 of 6 questions (30 Marks) Suggested Time: 60 minutes</p> <p><b>Section C: Short Essay Questions:</b> Answer 2 of 2 questions (40 Marks) Suggested Time: 60 minutes</p> <p>Please ensure that your name and student number are clearly indicated on your Answer Sheets and at the top of this examination paper.</p> <p>Note that questions <b>ARE NOT</b> of equal value. Read <b>ALL</b> questions carefully.</p>		
<b>EXAM CONDITIONS</b>		
<p><u>You may begin writing from the commencement of the examination session.</u> The reading time indicated above is provided as a guide only.</p>		
This is a CLOSED BOOK examination		
Any calculator is permitted		
No handwritten notes are permitted		
No dictionaries are permitted		
<b>ADDITIONAL AUTHORISED MATERIALS</b>	<b>EXAMINATION MATERIALS TO BE SUPPLIED</b>	
No additional printed material is permitted	1 x 16 Page Book 1 x 4-Multiple Choice Answer Sheet 6 x Scrap Paper	

**THIS EXAMINATION IS PRINTED  
DOUBLE-SIDED.**

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LEFT BLANK.**

**Section A**  
**Section B**  
**Short Answer Questions**  
**Total No of Marks for this section: 30 Marks**

This section should be answered in the Answer Booklet provided.

There are **5 marks** for each question. Suggested Time allocation for Section B: 60 mins

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**Question 1**

A researcher suspects the influence of a predictor variable is likely to exert its influence on an outcome variable via one or more other variables. How might the researchers test this assumption and how would the researcher know if the hypothesis was supported or not?

**Question 2**

All things being equal, the ability of three variables to predict an outcome variable (in a multiple regression model) will increase as the correlation between the predictors decrease. Explain why this is the case.

**Question 3**

An ANCOVA removes the effect of a third variable (covariate) when testing for group differences. Describe how the effects of the covariate are taken into account in an ANCOVA model?

**Question 4**

Explain the major difference(s) between exploratory factor analyses and confirmatory factor analysis?

**Question 5**

Draw a path model that shows the influence of an exogenous variables on an outcome measure being moderated by another variable. Then explain how this model could be tested using SPSS.

**Question 6**

Please read the following hypothesis and (1) identify the relevant variables, (2) state which analyses are most appropriate, (3) state what checks of assumptions are appropriate, and (4) any necessary follow-up tests.

It is expected that problem gamblers will report that gambling is more of an escape than non-problem gamblers, while holding views towards the perceived optimism of winning constant.

**Section C**  
**Short answers - Interpretation of Results**  
**Total No of Marks for this section: 40 Marks**

There are **20 marks** for each question. Suggested Time allocation for Section C: 60 mins

**Question 1 of 2**

**(20 Marks)**

You have given your research assistant a data set to analyse. The output from this analysis is attached. Your task is to report the results in APA format.

When answering this question, you will need to state what analysis was conducted and interpret the output. Keep in mind there might be materials that your research assistant has not provided you and you need to mention what these other requirements might be.

**Ensure you read ALL elements of this analysis which goes across several pages**

For all variables, higher scores are indicative of an increase in the variable under investigation.

*Descriptive Statistics*

	Mean	Std. Deviation	N
Gambling Frequency	1.745	.5325	491
Impulsivity Scale	60.36	9.132	491
Excitement Scale	2.77	1.200	491
Impulsivity*Excitement	1.8402	11.53564	491

*Correlations*

		Gambling Frequency	Impulsivity Scale	Excitement Scale	Impulsivity* Excitement
Pearson Correlation	Gambling Frequency	1.000	.204	.395	.137
	Impulsivity Scale	.204	1.000	.168	.053
	Excitement Scale	.395	.168	1.000	.095
	Impulsivity*Excitement	.137	.053	.095	1.000
Sig. (1-tailed)	Gambling Frequency	.	.000	.000	.001
	Impulsivity Scale	.000	.	.000	.122
	Excitement Scale	.000	.000	.	.017
	Impulsivity*Excitement	.001	.122	.017	.
N	Gambling Frequency	491	491	491	491
	Impulsivity Scale	491	491	491	491
	Excitement Scale	491	491	491	491
	Impulsivity*Excitement	491	491	491	491

*Model Summary*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics				
					R Square Change	F Change	df1	df2	Sig. F Change
1	.204 <sup>a</sup>	.042	.040	.5218	.042	21.332	1	489	.000
2	.419 <sup>b</sup>	.176	.172	.4845	.134	79.174	1	488	.000
3	.430 <sup>c</sup>	.185	.180	.4823	.009	5.388	1	487	.021

a. Predictors: (Constant), Impulsivity Scale

b. Predictors: (Constant), Impulsivity Scale, Excitement Scale

c. Predictors: (Constant), Impulsivity Scale, Excitement Scale, Impulsivity\*Excitement

*ANOVA<sup>a</sup>*

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.808	1	5.808	21.332	.000 <sup>b</sup>
	Residual	133.128	489	.272		
	Total	138.935	490			
2	Regression	24.391	2	12.196	51.958	.000 <sup>c</sup>
	Residual	114.544	488	.235		
	Total	138.935	490			
3	Regression	25.645	3	8.548	36.746	.000 <sup>d</sup>
	Residual	113.291	487	.233		
	Total	138.935	490			

a. Dependent Variable: Gambling Frequency

b. Predictors: (Constant), Impulsivity Scale

c. Predictors: (Constant), Impulsivity Scale, Excitement Scale

d. Predictors: (Constant), Impulsivity Scale, Excitement Scale, Impulsivity\*Excitement

Coefficients<sup>a</sup>

Model		Unstandardized Coefficients		Standardized	t	Sig.
		B	Std. Error	Coefficients		
1	(Constant)	1.026	.158		6.510	.000
	Impulsivity Scale	.012	.003	.204	4.619	.000
2	(Constant)	.790	.149		5.310	.000
	Impulsivity Scale	.008	.002	.142	3.406	.001
	Excitement Scale	.165	.019	.371	8.898	.000
3	(Constant)	.805	.148		5.430	.000
	Impulsivity Scale	.008	.002	.138	3.332	.001
	Excitement Scale	.161	.018	.363	8.699	.000
	Impulsivity*Excitement	.004	.002	.095	2.321	.021

a. Dependent Variable: Gambling Frequency

**Section C**  
**Short answers - Interpretation of Results**  
**Total No of Marks for this section: 40 Marks**

There are **20 marks** for each question. Suggested Time allocation for Section C: 60 mins

**Question 2 of 2**

**(20 Marks)**

You have given your research assistant a data set to analyse. The output from this analysis is attached. Your task is to report the results in APA format.

When answering this question keep in mind you will need to state what analysis was conducted and interpret the output. Note: there might be materials that your research assistant has not provided you and you need to mention what these other requirements might be.

**Ensure you read ALL elements of this analysis which goes across 2 pages**

DASS = Depression, Stress and Anxiety Scale; higher scores are indicative of an increase in the variable under investigation.

*Between-Subjects Factors*

		Value Label	N
Risk Status	1	Low Risk Gambling	82
	2	At-Risk Gambling	54
	3	Problem Gambling	31

*Descriptive Statistics*

Dependent Variable: DASS Total

Risk Status	Mean	Std. Deviation	N
Low Risk Gambling	30.2683	9.76015	82
At-Risk Gambling	37.1296	13.12070	54
Problem Gambling	45.4839	14.50947	31
Total	35.3114	13.13228	167



*Levene's Test of Equality of Error Variances<sup>a</sup>*

Dependent Variable: DASS Total

F	df1	df2	Sig.
3.043	2	164	.060

Tests the null hypothesis that the error variance of the dependent variable is equal across groups.

a. Design: Intercept + Age + Risk Status

*Tests of Between-Subjects Effects*

Dependent Variable: DASS Total

Source	Type III Sum of Squares	df	Mean Square	F	Sig.	Partial Eta Squared
Corrected Model	5497.028 <sup>a</sup>	3	1832.343	12.912	.000	.192
Intercept	24529.740	1	24529.740	172.858	.000	.515
Age	25.152	1	25.152	.177	.674	.001
RiskStatus	5343.710	2	2671.855	18.828	.000	.188
Error	23130.780	163	141.907			
Total	236859.000	167				
Corrected Total	28627.808	166				

a. R Squared = .192 (Adjusted R Squared = .177)

*Estimates*

Dependent Variable: DASS Total

Risk Status	Mean	Std. Error	95% Confidence Interval	
			Lower Bound	Upper Bound
Low Risk Gambling	30.261 <sup>a</sup>	1.316	27.663	32.859
At-Risk Gambling	37.235 <sup>a</sup>	1.640	33.996	40.475
Problem Gambling	45.319 <sup>a</sup>	2.175	41.024	49.614

a. Covariates appearing in the model are evaluated at the following values: Age = 48.12.

*Pairwise Comparisons*

Dependent Variable: DASS Total

(I) Risk Status (1)= low risk; (2)=moderate risk; (3)=problem gambling	(J) Risk Status (1)= low risk (2)=moderate risk (3)=problem gambling	Mean Difference (I-J)	Std. Error	Sig. <sup>b</sup>	95% Confidence Interval for Difference <sup>b</sup>	
					Lower Bound	Upper Bound
Low Risk Gambling	At-Risk Gambling	-6.974 <sup>*</sup>	2.105	.003	-12.052	-1.896
	Problem Gambling	-15.058 <sup>*</sup>	2.539	.000	-21.184	-8.931
At-Risk Gambling	Low Risk Gambling	6.974 <sup>*</sup>	2.105	.003	1.896	12.052
	Problem Gambling	-8.083 <sup>*</sup>	2.760	.012	-14.743	-1.424
Problem Gambling	Low Risk Gambling	15.058 <sup>*</sup>	2.539	.000	8.931	21.184
	At-Risk Gambling	8.083 <sup>*</sup>	2.760	.012	1.424	14.743

Based on estimated marginal means

\*. The mean difference is significant at the .05 level.

b. Adjustment for multiple comparisons: Sidak.